

**Lithographic Apparatus, Device Manufacturing Method,
and Device Manufactured Thereby.**

ABSTRACT

Pre-cleaning or *in situ* cleaning of optical components for use in a lithographic projection apparatus can be carried out by irradiating the optical component with microwave and/or infra-red radiation, preferably infra-red radiation having a wavelength or a range of wavelengths in the range of from 1000cm^{-1} to 4600cm^{-1} . This technique may be suitable for cleaning a mask. By monitoring the absorption of microwave and/or infra-red radiation directed at a contaminated optical component, the degree of contamination of said component can be qualified. This method may also be suitable for reducing the partial pressure of water in EUV apparatus.